IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

NABORS DRILLING TECHNOLOGIES USA INC,	§	
	§	
Plaintiff,	§	
	§	Civil Action No. 3:20-cv-03126-M
v.	§	
	§	
HELMERICH & PAYNE INTERNATIONAL DRILLING CO, et al.,	§	
	§	
Defendants.	§	

MEMORANDUM OPINION AND ORDER

Before the Court is the Motion for Partial Judgment on the Pleadings of Invalidity under 35 U.S.C. § 101, filed by Defendants and Counter-Claimants Helmerich & Payne International Drilling Co., Helmerich & Payne Technologies LLC, and Motive Drilling Technologies, Inc. (collectively, "H&P"). ECF No. 99. For the following reasons, the Motion is **GRANTED IN PART** and **DENIED IN PART.**

I. FACTUAL AND PROCEDURAL HISTORY

This is a patent infringement lawsuit between two providers of drilling services in the oil and gas industry. Plaintiff and Counter-Defendant Nabors Drilling Technologies USA, Inc. ("Nabors") asserts the claims of seven patents[1] generally relating to systems and methods for computerized drilling control and rotary steerable systems. On May 26, 2022, the Court issued its claim construction memorandum opinion and order, addressing claim construction disputes as to the patents asserted by Nabors. ECF No. 126.

[1] U.S. Patent No. 7,802,634 ("the '634 patent"), U.S. Patent No. 7,823,655 ("the '655 patent"), U.S. Patent No. 7,860,593 ("the '593 patent"), U.S. Patent No. 8,360,171 ("the '171 patent"), U.S. Patent No. 8,510,081 ("the '081 patent"), U.S. Patent No. 8,528,663 ("the '663 patent"), and U.S. Patent No. 10,672,154 ("the '154 patent").

H&P moves to dismiss Nabors's claims of infringement as to the '593, '081, and '655 patents, on the grounds that the asserted claims of these patents are directed towards patent ineligible subject matter under 35 U.S.C. § 101.[2] ECF No. 99.

II. LEGAL STANDARD

A motion for judgment on the pleadings under Federal Rule of Civil Procedure 12(c) provides a means to dispose of a case or issues in a case where the parties do not dispute the material facts "and a judgment on the merits can be rendered by looking to the substance of the pleadings and any judicially noticed facts." *Hebert Abstract v. Touchstone Props., Ltd.*, 914 F.2d 74, 76 (5th Cir. 1990). The standard for resolving a motion for judgment on the pleadings is the same as a motion to dismiss under Rule 12(b)(6). *Gentilello v. Rege*, 627 F.3d 540, 543–44 (5th Cir. 2010). When reviewing a Rule 12(b)(6) motion to dismiss, courts must "accept all well-pleaded facts as true and view those facts in the light most favorable to the plaintiff," or, as here, the party asserting the challenged positions. *Richardson v. Axion Logistics, L.L.C.*, 780 F.3d 304, 306 (5th Cir. 2015) (quoting *Bustos v. Martini Club, Inc.*, 599 F.3d 458, 461 (5th Cir. 2010)).

Whether a claim recites patent-eligible subject matter under 35 U.S.C. § 101 is a question of law. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338 (Fed. Cir. 2017). However, the Federal Circuit has identified certain factual questions underlying a § 101 analysis. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368–69 (Fed. Cir. 2018). Accordingly, a district court may resolve the issue of patent eligibility under § 101 by way of a motion to

[2] After Nabors filed suit, H&P filed petitions to institute *inter partes* review ("IPR") challenging all asserted claims in the '593 patent. ECF No. 87. On October 18, 2021, the PTAB instituted review of claims 19–27 of the '593 patent. ECF No. 112; *Helmerich & Payne Int'l Drilling Co. v. Nabors Drilling Techs. USA, Inc.*, IPR2021-00672, Paper No. 11 (PTAB Oct. 18, 2021). To date, the PTAB has not issued a decision on the validity of claims 19–27 of the '593 patent.

dismiss. *See, e.g.*, *Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 912 (Fed. Cir. 2017). Section 101 provides that a patent may be obtained by any person who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. It "contains an important implicit exception: [l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (citation omitted).

In *Alice*, the U.S. Supreme Court described the two-step framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. *Id.* at 217–18. At Step One, the Court must determine whether the claims at issue are directed to a patent-ineligible concept. *Id.* at 217. If so, the Court proceeds to Step Two and, considering the elements of each claim both individually and "as an ordered combination," determines whether the additional elements "transform the nature of the claim" into a patent-eligible application. *Id.* (citations and quotations omitted). Step Two of the *Alice* test is satisfied when the claim limitations "involve more than performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014). Step Two is referred to as a search for an "inventive concept"—*i.e.* "an element or combination of elements that is "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Alice*, 573 U.S. at 217–18 (alteration in original).

III. ANALYSIS

A. The '593 patent: "Well prog execution facilitation system and method"

The '593 patent discloses a system for "prog analysis and execution." '593 patent, at 2:9–10. The '593 patent explains that "[a] well prognosis (prog) is generally understood in the

drilling industry to be a detailed and lengthy document containing specifications, goals, plans, etc. for drilling and completing a well." *Id.* at 1:6–9. The '593 patent discloses a "project plan execution system," in which a computer system may be "operably coupled" with an interface engine, an action item development engine, and a sensor engine, in which the computer system receives and stores a project execution prog and communicates with these engines to analyze the prog and control well drilling operations in according with the prog's specifications. *Id.* at 2:1–8. In doing so, the '593 patent purports to improve prior art by providing an automated system for compiling, analyzing, and executing well progs. *Id.* at 1:45–62.

Nabors asserts claim 19 of the '593 patent, which recites:

> A method for controlling a well drilling operation, comprising:
>
> > receiving a well prog;
> >
> > converting the well prog into a computer readable format;
> >
> > assessing the converted well prog to identify action items;
> >
> > associating a response with each identified action item; and
> >
> > controlling a well drilling operation in accordance with the responses associated with each identified action item from the well prog.

'593 patent, at 11:37–45 (emphasis added).

The Court construed "receiving a well prog" in claim 19 of the '593 patent to mean "receiving a document, which may be in a non-computer readable format, that contains information planning and chronicling the steps of drilling a well." ECF No. 126 at 31. The Court also construed claim 19 such that the method steps must occur in the order that they are written. *Id.*

H&P contends that claim 19 of the '593 patent is directed to patent ineligible subject matter, and lacks an inventive concept. The Court proceeds to Step One of the *Alice* inquiry, and

determines that the focus of claim 19 is directed to the idea of processing and analyzing data contained in the well prog. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (Step One looks at "the 'focus' of the claims" and their "character as a whole" (quotation marks omitted)). Specifically, claim 19 recites a method for controlling a well drilling operation that comprises receiving information in the form of a well prog, processing that information so that it is computer readable, and then "analyzing" and "assessing" the information to identify action items and responses associated with those action items. The final step recites controlling the well drilling operation "in accordance with" the responses associated with the action items identified.

H&P contends that the final "controlling a well drilling operation" step is insignificant post-solution activity—akin to an instruction of "apply it"—and that accordingly, the claim is directed to the abstract concept of "collecting and analyzing data to execute a project plan." ECF No. 100 at 10 (citing *Alice*, 573 U.S. at 223 ("Stating an abstract idea while adding the words 'apply it' is not enough for patent eligibility.")). The Court agrees. As Nabors admits, both the preamble and the final step of claim 19 specify that the claim is directed to collecting and analyzing information "for the purpose of 'controlling a well drilling operation.'" ECF No. 110 at 14. This functional, results-oriented language does not explain how that purpose is to be achieved, and instead only specifies that the method is to be performed in a certain context, *i.e.*, in a well drilling operation. As stated, the '593 patent purports to improve prior art by providing an automated system for compiling, analyzing, and executing well progs, and not by providing an improved method to control drilling operations. *See* '593 patent, at 1:45–62. Thus, the Court concludes that the character of claim 19 as a whole is directed to processing and analyzing the well prog, including by analyzing the information contained within the well prog to identify

action points and associated responses, which are then to be applied in a specific context, namely to control a well drilling operation. *See Internet Pats. Corp. v. Active Network, Inc*., 790 F.3d 1343, 1346 (Fed. Cir. 2015) ("[T]he claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.").

The Federal Circuit has previously recognized that claims directed to gathering, processing, and transmitting data are directed to an abstract idea. *See, e.g.*, *CardioNet, LLC v. InfoBionic, Inc*., 816 F. App'x 471, 475 (Fed. Cir. 2020) ("[T]he claims are directed to collecting, analyzing, and displaying data, which we have repeatedly held to be abstract concepts."); *Cellspin Soft, Inc. v. Fitbit, Inc*., 927 F.3d 1306, 1315 (Fed. Cir. 2019) (claims drawn to "capturing and transmitting data from one device to another" are abstract); *Two-Way Media Ltd. v. Comcast Cable Communications, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (claims reciting "converting," "routing," "controlling," "monitoring," and "accumulating records" steps using "result-based functional language" are abstract); *Elec. Power Grp*., 830 F.3d at 1353 (claims describing "collecting information, analyzing it, and displaying certain results of the collection and analysis" directed to an abstract idea). In addition, claims directed to analyzing information "by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract idea category." *Elec. Power Grp.*, 830 F.3d at 1354.

Accordingly, the Court concludes that claim 19 is directed to an abstract idea, namely converting, processing, and analyzing information from the well prog. The Court notes that claim 19 need not be stripped of limitations or overly simplified to reach this conclusion; on the contrary, claim 19 is drafted broadly, with generalized, results-oriented language that lacks sufficient specific, tangible limitations to ground it and remove it from the realm of abstraction.

See SAP Am., Inc. v. InvestPic, LLC, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (concrete and non-abstract claims described as containing "the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it").

Moreover, the specification confirms that the process of analyzing and assessing the well prog information to identify action items and associated responses is essentially a mental process, which could be performed by a human. For example, the specification describes the "action item identification module **202**," which, "in conjunction with the operator," functions to "review the prog according to a predetermined logic program configured to identify events" and determine whether the event constitutes an action item. '593 patent, at 5:8–15. Such analysis may be conducted "in accordance with a predetermined algorithm," including by comparing events in the prog to a known database of action items. *Id.* at 5:31–38. Once action items are identified, the module determines the appropriate response, which may include using "instructions from an operator to define actions that should be taken upon the occurrence of each particular action item." *Id.* at 7:46–50; *see also id.* at 5:38–46. The algorithm or criteria for identifying action items and responses is not disclosed in either claim 19 nor the specification.

Thus, the specification explains that the process of analyzing the well prog for action items and responses is a form of processing data according to an algorithm or set of instructions, which can be—and, according to the specification, often is—conducted by a human. Accordingly, claim 19, which broadly describes converting, processing, and analyzing information from the well prog, is directed to an abstract idea.

The Court is further convinced that the claims are not directed to an improvement to computer functionality, as opposed to the abstract idea itself. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) ("[W]e find it relevant to ask whether the claims are

directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis."). Although the specification describes a potential improvement in having an automated system, the language of claim 19 does not require that the claimed method be performed automatically. *See* '593 patent, cl. 19; *see also id.* at 1:53 ("It would be a valuable addition to the field to provide an automated system having a computer system and an action item development engine . . . ."). In addition, the claim language is broad, and does not focus on a specific improvement of any computer capabilities, but rather a generalized and generic process in which computers are invoked merely as a tool. *See Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1365 (Fed. Cir. 2020) ("[G]eneric speed and efficiency improvements inherent in applying the use of a computer to any task . . . [are] not an improvement in the functioning of the computer itself."); *see also Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 Fed. App'x 950, 954 (Fed. Cir. 2017) ("[A] method for collection, analysis, and generation of information reports, where the claims are not limited to how the collected information is analyzed or reformed, is the height of abstraction.").

Moving to Step Two, claim 19 does not recite an "inventive concept" that "reflects something more than the application of an abstract idea using 'well-understood, routine, and conventional activities previously known to the industry.'" *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018). The Court concludes that none of the claim's elements, assessed individually and as an ordered combination, disclose an inventive concept capable of transforming the abstract idea into patentable subject matter.

The claim elements are generic and conventional. The '593 patent explains that well progs were known in the industry. *E.g.*, '593 patent, at 1:6–9, 1:29–44, 4:9–19. Claim 19 describes converting the well prog into a computer readable format, and the specification

explains that such computer readable media can take a variety of forms, including, without limitation, read-only memory devices, writable storage media, and information conveyed across the Internet or other networks. *Id.* at 3:22–39. The "converting" step may be accomplished by a variety of known manners, including copying or scanning the prog into the computer system, answering questions about the prog's contents, or by "any other method of transferring text from a hard copy document into a machine readable format." *Id.* at 6:58–72. The computer systems, engines, and modules described as performing the claimed methods steps are generic and conventional, and include "computers, components of computers, programmable logic devices, microprocessors, software, software routines, software modules . . . and other elements and their equivalents which contribute to the purpose or task to be accomplished." *Id.* at 3:63–4:9. And as stated, while the specification describes an automated computer system as a valuable addition to the field, claim 19 contains no reference to automation or automatically processing or analyzing a well prog. *See id.* at 1:45–53. In sum, the Court finds that none of the claim's elements recite an inventive concept.

Moreover, the ordered combination of these elements also does not yield an inventive concept. Nabors argues that, prior to claim 19, "there was no way to uniformly and accurately use . . . well progs," because there was no universal standardization in the industry for progs. ECF No. 110 at 16. However, nothing in claim 19 purports to capture an improvement or inventive concept as to the standardization of well progs, so as to confer patentability on an otherwise ineligible abstract idea.

In light of the foregoing, the Court concludes that claim 19 of the '593 patent is directed to patent ineligible subject matter, and lacks an inventive concept capable of transforming an otherwise unpatentable abstract idea into eligible subject matter.

B. The ’081 patent: “Drilling scorecard”

The ’081 patent is directed to a method, system, and apparatus for evaluating drilling accuracy performance in drilling a wellbore. The specification describes how there are numerous factors that may cause a directional drilling well to be steered on or off course. ’081 patent, at 2:33–35. To that end, the ’081 patent describes “a long-felt need to more accurately evaluate a driller’s ability to keep the toolface in the correct orientation, and to be able to more accurately evaluate a driller’s ability to keep the well on target.” *Id.* at 2:43–46. The ’081 patent purports to address that need by disclosing a method to evaluate performance by monitoring and recording various parameters involved in the drilling operation—including an actual toolface orientation of a downhole steerable motor, and a parameter indicative of a difference between the actual and recommended orientation—and assigning a score based on the values that is representative of drilling performance. *E.g.*, *id.* at 2:51–3:11.

Nabors asserts claims 1–3 of the ’081 patent. Claim 1 recites:

A method of evaluating drilling performance in a wellbore, which comprises:

> monitoring, during wellbore drilling, an actual toolface orientation of a downhole steerable motor by monitoring a drilling operation parameter indicative of a difference between the actual toolface orientation and a toolface advisory;
>
> recording, at a plurality of times during the wellbore drilling, the difference between the actual toolface orientation and the toolface advisory;
>
> scoring each of the differences between the actual toolface orientation and the toolface advisory by assigning respective values to the differences, each of the values representing drilling performance at the corresponding time at which the corresponding difference was recorded, each of the values depending on the corresponding difference;
>
> generating a total score, the total score being based on a sum of the values, the total score indicating the degree to which the actual toolface orientation was kept in a correct orientation over the plurality of times during the wellbore drilling; and

providing at least the total score to an evaluator.

'081 patent, cl. 1.

The Court construed "a toolface advisory" in claim 1 of the '081 patent to mean "recommended toolface orientation." ECF No. 126 at 31. Claims 2 and 3 of the '081 patent both depend on claim 1. Claim 2 recites "[t]he method of claim 1, wherein the scoring the difference is performed for each of a plurality of drillers that have operated the drilling rig." Claim 3 recites "[t]he method of claim 1, wherein the recording the difference is performed at regularly occurring length or depth intervals in the wellbore." H&P contends that claim 1 of the '081 patent is directed to an abstract idea and lacks an inventive concept, and that claim 1 is representative of both claims 2 and 3 for purposes of the § 101 inquiry.

The Court will first address claim 1. The method of evaluating drilling performance described in claim 1 of the '081 patent generally consists of the following steps: monitoring and recording, at a plurality of times during drilling, the difference between the actual and recommended toolface orientations; scoring each of those recorded differences by assigning values based on the recorded difference; generating a total score based on the sum of the values; and providing that total score to an evaluator. Claim 1 describes how the total score is indicative of the degree to which the actual toolface orientation was kept in correct orientation during drilling. '081 patent, cl. 1.

H&P contends this method is directed to the abstract idea of "collecting data and analyzing the data using mathematical techniques to provide a performance evaluation." ECF No. 100 at 14. The Court agrees that claim 1 is directed to an abstract idea, namely collecting and analyzing data. In its simplest form, claim 1 describes measuring at various times how "far off" a driller's actual position is from the expected position, assigning a value that depends on that measurement, and adding up all assigned values to generate a score. This is akin to any

system in which data over time is compared to a control set; here, the data reflective of the difference in each recorded orientation is just further manipulated by being assigned a value, which is then used to generate a score indicative of an operator's performance. Federal Circuit precedent indicates that this is abstract. *See, e.g.*, *SAP Am* 898 F.3d at 1167 ("The focus of the claims . . . is on selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis. That is all abstract.").

The Court further concludes that claim 1 is not directed to an improvement in computer functionality, as opposed to the abstract idea itself. *E.g.*, *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018) ("Although the generic idea of summarizing information certainly existed prior to the invention, these claims are directed to a particular manner of summarizing and presenting information in electronic devices."). As stated, claim 1 describes evaluating performance based on the difference between the actual toolface orientation and where it ought to be; it does not reference or require that the method be performed on a computer or technological device; accordingly, claim 1 does not focus on a specific improvement of the computer's capabilities, but rather a generalized and generic process in which computers may be invoked merely as a tool. *See Elec. Power Grp.*, 830 F.3d at 1354 ("The advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions."). This is confirmed by the specification, which describes how the disclosed invention may be recorded on a computer-readable medium, but alternatively "may be implemented in hardcopy, such as in a paper notebook, an easel, or on a whiteboard or posting board on a wall." '081 patent, at 10:20–25. In addition, improvements conferred by various embodiments of the invention, as described in the specification, relate to

improving and incentivizing operator performance, as opposed to computer functionality. *E.g.*, *id.* at 9:38–42 (an embodiment "may help an operator or other human personnel to understand the relationship between toolface and quill position"); 9:65–10:1 ("[T]he scoring discussed herein can be tracked and applied to make improved drilling a challenging game rather than merely a job task."); *id.* at 11:40–44 ("The scorecard **200** could be used as a pail of an incentive program to reward accurate drilling performance, either through peer recognition, financial rewards . . . or both.").

Nor is the Court convinced by Nabors's argument that "the use of data in claim 1 is only a small part of the required physical process of drilling a well with a steerable motor." ECF No. 110 at 18. Although claim 1 specifies that the recited method is performed "during wellbore drilling," what matters "is the reality behind the machine or system language, whether or not it simply clothes abstract concepts." *See Sensormatic Elecs., LLC v. Wyze Labs, Inc.*, No. 2020-2320, 2021 WL 2944838, at *2 (Fed. Cir. July 14, 2021) (citing *Alice*, 573 U.S. at 223). As discussed, claim 1 is directed to the abstract idea of the collection and manipulation of data relating to relative orientation of the toolface over time to evaluate performance; the fact that the method described in claim 1 occurs in the context of wellbore drilling or involves orientation data in particular is insufficient to render the claim non-abstract. *SAP Am.*, 898 F.3d at 1168 ("[E]ven if a process of collecting and analyzing information is 'limited to particular content' or a particular 'source,' that limitation does not make the collection and analysis other than abstract."); *Intell. Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017) (restrictions on the invention's field of use "do not render an otherwise abstract concept any less abstract"); *Elec. Power Grp.*, 830 F.3d at 1353 (Fed. Cir. 2016) ("[W]e have treated collecting information, including when limited to particular content (which does not change its character as

information), as within the realm of abstract ideas."). Moreover, nothing in claim 1 or the specification indicates that the claim is directed to improvements in the physical process of drilling a well unrelated to the abstract idea, such as an improved means for monitoring toolface orientation or increasing performance of the steerable motor, as opposed to an improved method of evaluating the operator's performance.

The Court further concludes that the additional limitations in claims 2 and 3 do not warrant a different outcome. Claim 2 specifies that scoring is performed for each of the plurality of drillers that operate the rig, and claim 3 requires that recording the difference between the actual toolface orientation and toolface advisory is performed at regularly occurring depth or length intervals in the wellbore. Because limiting method directed to an abstract idea to a particular context or performing it multiple times for different operators does not render the method any less abstract, the Court concludes that claims 2 and 3 are likewise directed to an abstract idea at Step One. *See id.*

Proceeding to Step Two, the Court finds no inventive concept in claims 1–3, whether the limitations are considered individually or in combination, to render the claims patent eligible. Drilling operations, including directional drilling, are described as being known prior to the invention. '081 patent, at 1:5–59. The specification explains further that techniques and sensors to determine toolface orientation—the data being collected in the claimed method—are known. *E.g.*, *id.* at 1:60–2:17. The "evaluator" in the final step is described as "the driller or the driller's peer(s), or both." *Id.* at 3:8–11.

In addition, nothing in the claim language indicates that the data being collected is part of a specialized set, nor do claims 1–3 specify a particular way of manipulating the data so as to qualify as inventive. *See Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d

1341, 1350 (Fed. Cir. 2016) (claims reciting "a specific, discrete implementation of the abstract idea" contained an inventive concept). Specifically, claim 1 describes manipulating data through subtraction (*i.e.*, recording the difference in position between the actual and recommended toolface orientation) and addition (*i.e.*, summing the assigned values); however, it neither specifies nor describes how the assigned value reflective of driller performance is to be calculated, other than requiring "each of the values depending on the . . . difference" observed at the particular time. '081 patent, cl. 1. Claims 2 and 3 provide no additional instruction on how the data is to be manipulated, let alone that the data is to be manipulated in a particular manner that is inventive or previously unknown. *See id.* cls. 2, 3. Moreover, Nabors points to no factual allegations about the '081 patent in its pleadings that create a fact question regarding an inventive concept in claims 1–3, and accordingly, there are no factual disputes preventing the Court from resolving the patent eligibility question at this juncture. *See Berkheimer*, 881 F.3d at 1368–69.

Accordingly, in the absence of a technological improvement or non-generic components, no inventive concept can be discerned in the unspecified means by which the data is manipulated in claims 1–3. The Court concludes that claims 1–3 of the '081 patent are directed to an abstract idea, and because they lack an inventive concept, they are unpatentable under § 101. *See, e.g.*, *Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 Fed. App'x 950, 954 (Fed. Cir. 2017) ("[A] method for collection, analysis, and generation of information reports, where the claims are not limited to how the collected information is analyzed or reformed, is the height of abstraction.").

C. The '655 patent: "Directional drilling control"

The '655 patent is directed to a method and apparatus for using a quill to steer a hydraulic motor when elongating a wellbore in a direction having a horizontal component. '655 patent,

Abstract. The specification describes how directional drilling requires accurate orientation of a bent segment of the downhole motor that drives the bit, and that to adjust the drilling direction, the operator must rotate the drill string to change the toolface orientation. *Id.* at 1:20–27. However, when the drill string is increasingly horizontal and there exists substantial friction between the drill string and the bore, the operator may need to rotate the drill string several times at the surface to overcome friction, such that positioning the toolface correctly requires the operator to make various manipulations and adjustments to position the toolface properly, each of which must be considered in combination with other drilling requirements. *Id.* at 1:25–45. Accordingly, the '655 patent explains that reorienting the toolface is complex, labor intensive, and often inaccurate. *Id.*

The '655 patent purports to address these problems by disclosing a system, apparatus, and method of using a quill—described in the specification as variously referring to a component which transfers torque, position, and/or rotation from the top drive to the drill string—to steer a hydraulic motor when elongating a wellbore in a direction having a horizontal component, wherein the quill and the hydraulic motor are coupled to opposing ends of a drill string. *Id.* at 18:6–20:3; *see also id.* at 2:50–60 (defining "quill").

Nabors asserts claims 1, 5–6, 13–14, 17 and 20 of the '655 patent. H&P contends that claim 1 is representative of claims 5–6, 13–14, 17, and 20 for purposes of the § 101 inquiry. Claim 1, on which claims 5–6, 13–14, and 20 depend, recites:

> A method of using a quill to steer a hydraulic motor when elongating a wellbore in a direction having a horizontal component, wherein the quill and the hydraulic motor are coupled to opposing ends of a drill string, the method comprising:
>
> > monitoring an actual toolface orientation of a tool driven by the hydraulic motor by monitoring a plurality of drilling operation parameters each indicative of a difference between the actual toolface orientation and a desired toolface orientation; and

> adjusting a position of the quill by an amount that is dependent upon each of the plurality of the monitored drilling operation parameters.

Id. cl. 1.

The Court construed "a plurality of drilling operation parameters" in claim 1 of the '655 patent to mean "two or more parameters of a drilling operation other than actual toolface orientation." ECF No. 126 at 31.

H&P argues that claim 1 consists of two steps: a "monitoring" step and an "adjusting" step, which amounts to nothing more than the abstract idea of "adjusting a device . . . based on monitored parameters." ECF No. 100 at 21. H&P points to cases, discussed previously, indicating that claims describing monitoring and collecting data are abstract, and cites district court cases holding that claims describing taking an action in response to observed data are abstract. *Id.* at 22–23.

The Court concludes that claim 1 is not directed to an abstract idea. Although the Federal Circuit has made clear that claims directed to the collection and monitoring of data are abstract, the Court finds that claim 1 is not focused on the improvement in wholly abstract ideas, but rather an improvement in the physical realm, namely an improved method for steering a hydraulic motor using a quill. Unlike, for example, claims 1–3 in the '081 patent—which were directed to the collection and mathematical analysis of information, followed by reporting of the results to an evaluator—the focus of claim 1 in the '655 patent is tethered to reality, namely a method to better steer a hydraulic motor, as compared to the prior art.

The Court finds claim 1 is similar to the claims at issue in *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348 (Fed. Cir. 2017), which the Federal Circuit found were not directed to an abstract idea. Claim 22 of the patent considered in *Thales* claimed a method for determining an orientation of an object relative to a moving reference frame based on signals

from two inertial sensors mounted respectively on the object and on the moving reference frame, which the accused infringer argued was directed to the abstract idea of using laws of nature governing motion to track two objects. *Id.* at 1345–46. The Federal Circuit disagreed, and found that the claims were directed towards using sensors in a non-conventional manner to reduce errors over prior art systems. *Id.* at 1348.

Such is the case here. The ’655 patent describes how prior art systems for reorienting toolface orientation were laborious and often inaccurate, and the disclosure in the ’655 patent describes an improved method for steering based on monitoring a plurality of drilling operation parameters each indicative of a difference between the actual toolface orientation and a desired toolface orientation, akin to the non-conventional use of sensors in *Thales*. *See id.* at 1349 (“The claims specify a particular configuration of inertial sensors and a particular method of using the raw data from the sensors in order to more accurately calculate the position and orientation of an object on a moving platform. . . . As such, these claims are not directed to an abstract idea and thus the claims survive Alice step one.”).

For example, the specification describes various combinations of operation parameters—“including one or more of actual mud motor ΔP, actual toolface orientation, actual [weight-on-bit], actual bit depth, actual [rate of penetration], actual quill oscillation”—which may be monitored and used to control actual toolface orientation by affecting a change in the parameter. ’655 patent, at 20:9–16, 20:60–21:3; *see also id.* cl. 13. The ’655 patent indicates that some of these parameters “previously have not been utilized for automatic toolface orientation,” indicating a non-conventional use. *Id.* at 20:4–11. Moreover, the ’655 patent describes embodiments conferring improvements over the prior art, including reducing time for connections. *Id.* at 21:32–50.

Accordingly, the Court concludes that claim 1 is not directed to an abstract idea, and thus the remaining asserted claims are likewise not directed to an abstract idea. Because the Court concludes that the asserted claims of the '655 patent are not directed to an abstract idea, it need not proceed to Step Two. *Alice*, 573 U.S. at 221. The claims are patent eligible under 35 U.S.C. § 101.

IV. CONCLUSION

For the following reasons, the Motion is **GRANTED IN PART** and **DENIED IN PART.** The Motion is **GRANTED** as to claim 19 of the '593 patent and claims 1–3 of the '081 patent, which the Court concludes are directed to ineligible subject matter under 35 U.S.C. § 101. Nabors's claims of patent infringement based on those ineligible patent claims are **DISMISSED**. H&P's Motion to Dismiss based on the '655 patent is **DENIED.**

SO ORDERED.

September 28, 2022.

BARBARA M. G. LYNN
UNITED STATES DISTRICT JUDGE